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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.						
10/524,905	02/17/2005	Jung-hoa Kim	4464-116 US	1981						
7590 Diane Dunn McKay Mathews Collins Shepherd & McKay Suite 306 100 Thanet Circle Princeton, NJ 08540		07/27/2007	<table border="1"><tr><td>EXAMINER</td></tr><tr><td>KARLS, SHAY LYNN</td></tr><tr><td>ART UNIT</td><td>PAPER NUMBER</td></tr><tr><td>1744</td><td></td></tr></table>		EXAMINER	KARLS, SHAY LYNN	ART UNIT	PAPER NUMBER	1744	
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			MAIL DATE	DELIVERY MODE						
			07/27/2007	PAPER						

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/524,905	KIM, JUNG-HOA
	Examiner Shay L. Karls	Art Unit 1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 17 February 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-3 is/are pending in the application.  
 4a) Of the above claim(s)        is/are withdrawn from consideration.  
 5) Claim(s)        is/are allowed.  
 6) Claim(s) 1-3 is/are rejected.  
 7) Claim(s)        is/are objected to.  
 8) Claim(s)        are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on        is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No.       .  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-548)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date       

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date       .  
 5) Notice of Informal Patent Application  
 6) Other:       .

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

### ***Specification***

The disclosure is objected to because of the following informalities: page 4, lines 3 states "wings 13" however the wings were previously referred to as reference number 12 and reference number 13 was previously used for the screw. Therefore, it is believed that the specification should read ---wings 12---. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 2 states "a recess" and line 3 states "the recesses". The applicant only has antecedent basis for a single recess not multiple recesses. Correction is necessary.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikkelsen (USPN 3471889) in view of Gould (USPN 3839763).**

Mikkelsen teaches a brush comprising a core (figure 1 and 2) having recesses (portion between elements 3 on figure 1 and portion between elements 13 on figure 2) formed at a circumference thereof along an axial direction with a predetermined distance. There is a wing (3 or 13) formed between the recesses. The core receives brush rings (1) to form a rotary brush (abstract). There is further a fixing means (4 and 17) attached to the core to secure the brush rings. Mikkelsen teaches all the essential elements of the claimed invention however fails to teach the exact type of brush ring being used. Gould teaches a rotary brush with brush rings

(12) surrounding a core (28). The brush rings comprises washing threads (18) bent at a middle portion therefore and affixed to the ring (col. 2, lines 56-60). There is additionally a spacer (31) located between each brush ring on the core (claim 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the brush rings and spacers of Gould on the core of Mikkelsen since Gould's brush rings provide a replaceable brush unit of the above nature characterized by its simplicity, ruggedness, low cost, high reliability and ease of construction and assembly (col. 1, lines 49-52). Additionally, the structure of Mikkelsen and Gould's brush rings appear to be essentially the same and therefore they are considered to be equivalent structures known in the art, which can be interchangeable.

**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikkelsen ('889) and Gould ('763) as applied to claim 1 above and further in view of Hundebol (USPN 4518452).**

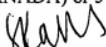
Mikkelsen and Gould teach all the essential elements of the claimed invention however fail to teach that the fixing means comprises a supported formed at one end of the core and fastening member fastened to the other end of the core. Hundebol teaches a rotary brush comprising a core surrounded by brush rings. The brush rings are securely attached to the core by a fixing means comprising a supporter (13, 14) which projects radially outward from one end of the core and a fastening member (7, 11) attached to the other end of the core. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fixing means of Mikkelsen so that it comprises a supporter and a fastening member so that the brush rings are held tightly and firmly locked on the core (col. 3, lines 10-20).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L. Karls whose telephone number is 571-272-1268. The examiner can normally be reached on 7:00-4:30 M-Th, alternating F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Shay L Karls  
Patent Examiner  
Art Unit 1744